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ABSTRACT

In light of the new demands being made on higher education in the seventies, a six-step systematic change strategy is presented to implement needed reforms in educational institutions. The approach requires (a) recognition of an existing problems; (b) establishment of well-defined, assessible goals and objectives; (c) identification of constraints and needed resources; (d) selection and evaluation of alternative solutions; and (e) implementation of the selected procedure or practice. The author argues for combining the concept of systematic problem-solving with the modern management strategies of participative management. (Author)

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Higher Education and the Challenge of the Seventies

David S. Bushnell

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HUMAN RESOURCES RESEARCH ORGANIZATION
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Prefatory Note

This paper presents criteria by which to judge new educational programs, and offers a systematic six-step plan for implementing needed changes within ongoing college programs. The paper was presented at the Strategies for Change and Knowledge Utilization Conference, Saratoga Springs, New York in July 1972. The conference is a consortium of colleges and universities concerned with change in higher education.

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HIGHER EDUCATION AND THE CHALLENGE OF THE SEVENTIES

David S. Bushnell

Higher education during the seventies is being faced with a different set of demands than it has experienced in the past two decades. The concern with building new facilities and providing ample classroom space is being replaced with (a) demand for greater equality of educational opportunities and (b) curricula tailored to the needs of students with varying aptitudes and ability levels. College administrators and staff are responding to these challenges by adopting instructional programs and procedures that are designed to effectively serve the needs of the *student*, not simply those of the instructor. It is fashionable in some circles to deride educators for resistance to change, but it might be more accurate to blame those people who are responsible for the development of alternative programs—would-be innovators who fail to design a "total package" that can be readily adopted. It is the purpose of this paper to propose criteria by which new programs should be judged, as prospective users weigh alternative strategies.

Past efforts at improving colleges have tended to deal with fragments of the total system. Such efforts often failed to become fully accepted because they brought pressure on other traditional ways of doing things: therefore, those with vested interest in established methods resisted the proposed change for fear of jeopardizing their jobs. Small-scale changes had minimum impact because they dealt with only a part of the total learning process. What was needed was a total systems approach in which piecemeal improvements could be linked together by a well-thought-out strategy for change.

Fortunately, a systems-analytic approach does provide a way of relating "output" to "process." It is not a new formula and it does not guarantee success. The basic concept—frequently described as a rational problem-solving approach—has proved to be a powerful tool for operations researchers and system analysts. Are these techniques applicable to the problems of education? What insights do they offer to aid decision makers in their search for improvements?

Is a Systems Approach to Educational Reform Possible?

To the experienced college staff member, it is obvious that there are some similarities and some significant differences between educational systems and other types of organizations. Any higher educational institution must acquire and allocate resources, schedule classes and students, hire and assign staff, and plan ahead. However, a new program—for example, introducing a new ethnic study program into the curriculum—can create a host of problems not likely to be found in other institutional settings. Faculty might become concerned that the required courses in American History would lose their appeal and might even be eliminated from the curriculum. Students might be irritated because the new courses were offered at inconvenient times; for instance, black students at one Southeastern campus were convinced that an ethnic studies course was purposely being offered in the afternoon so that students with afternoon jobs would not be able to attend. Counselors might become frustrated because those who enroll may fail to measure up against standard achievement norms. Regional accrediting groups might find it difficult to decide whether the new curriculum met their criteria of excellence. Boards of trustees, aware of the increasing demands on the educational dollar, would be concerned with the cost of setting up a new curriculum. Administrators or parents might worry about the

overall quality of the educational program and wonder whether an ethnic studies course represents a trend toward a lowering of academic standards.

What are some of the differences between educational and manpower training organizations in general and those organizations where system-analytic techniques have proved to be helpful? Cogan (1971) identifies five essential differences:

- Types of large-scale, expensive development programs in which systems analysis has played an important role are usually administered under a centralized management structure such as those found in the military or private industry. (America's school system is largely decentralized and pluralistic.)
- Dollar resources available to educators are frequently inadequate to support a large-scale innovative effort.
- Most innovations in education have not been made fully operational—the packaging is inadequate.
- Systems analysts and related specialists, only recently arrived on the educational scene, are in short supply.
- Education is fundamentally a *human* enterprise. Systematic problem-solving techniques designed to aid systems engineers require drastic modifications when applied to the prediction of human behavior. Therefore, extreme caution must be exercised in attempting to transfer system-analytic methods from hardware to software systems.

Consider the military training command as an example. It trains its personnel to a specific level of competence in a particular job skill. Most of the trainees are reasonably well-motivated high school graduates. They are assured that they will be permitted to pursue the particular occupation for which they are being trained, provided they are reasonably diligent in their efforts. The skills required to operate a new weapon system are determined well in advance so that training materials, workbooks, and instructional procedures can be carefully prepared. The performance of graduates can be monitored and the results fed back to the training command if improvements are required. The hierarchical decision-making command structure makes it likely that a well-designed training program will be adopted throughout the total command. Heavy starting costs can be amortized across large numbers of men and materials.

This brief comparison illustrates a few of the differences between the centrally controlled and efficient military training command and our largely decentralized and locally managed educational system. To recognize those differences may be to recognize the problems peculiar to applying a system-analytic approach to educational improvements. Modifying an on-going educational system is difficult because of the number of uncontrolled variables involved. Until recently, few educators have been capable of even verifying which educational practices are the most valid.

The recent formulation of a theory of planned change in education does offer at least the possibility of systematically plotting needed reforms. This, together with the availability of improved methods of assessing individual student progress, makes it more likely that today innovative programs will be more readily institutionalized.

Goals and Their Assessment

All organizations—profit making and non-profit making—have goals. Often, however, these goals are not well understood by the members of the organization. For example, International Business Machines should be and seems to be successful in achieving its goals, yet an employee opinion survey in an IBM plant showed that a large number of its employees had no idea what the product of production effort was, or how their particular responsibility linked with that product. In other cases, organizations may state a set of goals but their practices belie commitment to those goals.

Most educational institutions find it difficult to evaluate their own performance because of the failure to state goals and related objectives in ways that lend themselves to assessment. Goal achievement often depends upon the care with which subsystem objectives are specified. Subsystem or intermediate objectives can be used by faculty members to guide students as they progress through a given subject matter toward "terminal" performance objectives. The goals toward which performance objectives are aimed represent the long-range mission of an instructional program and provide an integrative theme for the learning program as a whole.

With regard to the present effort to focus attention upon performance assessment as the major criteria for determining the effectiveness of a school, three points should be considered. First, many of the earlier efforts to determine an institution's productivity consisted of counting the number of books in the library and the number of teachers with PhD's. Effectiveness was measured in terms of how well a program was being implemented, thus restricting the consideration of alternative teaching strategies to reshuffling time-worn practices of the past. Restating objectives in terms of "output", or changes in the learner's performance, offers the advantage of relating inputs and instructional processes to results, with close attention to the interaction among these three classes of variables.

Second, broader educational goals (stated in terms of the behavior which students should evidence upon completion of a program of study) need to be broken down into more specific short-term, or interim, "output" objectives which additively lead to improved student performance. To express these "terminal" objectives in terms of a detailed set of interim objectives is an arduous and demanding task, requiring considerable time investment on the part of faculty if such objectives are to be built from the ground up.[1]

Finally, for certain types of learning experiences, the learning process itself defines the objective being served. In a number of instances, general goals are all that can be stated and subobjectives can only be clarified through experience with individual learners. Self-confidence, a desire to continue one's learning beyond the formal years of schooling, adoption of a set of values compatible with those in a democratic society--all represent outcomes which are difficult to break down into component parts. Yet such goals are obviously an important part of a student's educational development.

From the perspectives of the types of behaviors which a student should evidence upon completion of a program of study, many of today's curriculum and instructional procedures should be tagged as inadequate. By converting the broad educational goals of colleges into more specific "output" and "process" objectives, the college administration and faculty should be able to identify a minimum set of skills, knowledge, and attitudes to be achieved by a majority of the students enrolled in a particular course. How is this conversion process to occur? By what alchemy can we move from where we are today to where we would like to be? First the model, then the strategy.

Six Steps Toward a Systematic Change Strategy

A new branch of social science has emerged during the past two decades, dealing with the transfer and utilization of knowledge. This discipline grew out of the interest of the rural sociologist in the cooperative extension program in which agricultural extension agents served as intermediaries between the agricultural experimental stations and the farmer. The extension agent was trained to inform and persuade his client, the farmer,

[1] The Center for the Study of Evaluation at UCLA has established an Instructional Objectives Exchange under the direction of Dr. W. James Popham to deposit, develop, and disseminate measurable objectives and items for use by educators. They hope to provide teachers with well-conceived output objectives to be employed in the redesign of curriculum materials.

that adopting a new seed or farming procedure would be in the farmer's best interest. Further elaboration of this relatively simple model led to the development of "linkage" strategies for bringing complex knowledge and scientific developments from resource groups to user groups.

Those associated with this area of study have generally fallen under one of three models for the implementation of an intervention strategy.

Research, Development, and Diffusion Model. Advocates of this approach emphasize the careful development, evaluation, and packaging of information for use by practitioners. They assume that a well-designed procedure or application will, in effect, sell itself to potential users. Awareness of the barriers, human fears, and needs of the user group is frequently absent. A better mousetrap, they argue, will capture its own audience.

Social Interaction Model. Advocates of this position draw heavily upon the research of Kurt Lewin, Herbert Thelan, Dorwin Cartwright, Ronald Lippitt, and others interested in group dynamics. By identifying opinion leaders and noting their influence on others within a social group, it is argued that the flow of new information and its impact can be charted and predicted. However, there is little evidence of their concern with how carefully and accurately the information communicated was developed. Advocates are principally concerned with user needs and not with the research and development stages associated with the initial input of information.

Problem-Solving Model. This more rationalistic approach to facilitating the dissemination and utilization of information grew out of attempts to apply systems-analytic procedures to social problems. It also starts with the assumption that user needs are paramount but then prescribes a step-by-step problem-solving procedure which the practitioner is expected to follow while he attempts to diagnose, search for, and evaluate alternatives, and ultimately implement the most suitable strategy for change. As such, this model puts excessive pressure on the user to carry through the problem-solving steps designated. It does not provide for the exploitation of existing information or outside resource groups. Nor is there adequate attention given to the "human relations" problems which arise when one attempts to proceed in an impersonal, systematic manner.

Ronald Havelock (1969) undertook to review and synthesize more than 4,000 studies dealing with the dissemination, utilization process as they might bear upon the problem of facilitating educational change. The more important variables (outlined in the brief summary above) of the more popular change models were then synthesized into what Havelock has termed the "linkage model." It, too, starts with its focus on the user as a problem solver. The user senses an initial "felt need" which motivates him to diagnose and isolate the elements of the problem that he is experiencing. Through a systematic search process, various alternative solutions are identified and evaluated before a particular solution is selected for trial.

During the search stage, the problem solver links up with outside resource groups in the expectation that new and more relevant alternatives will be discovered, offering him the opportunity to test out these new approaches. In the process of linking with outside resource groups, the problem solver must enter into a reciprocal relationship if the link is to be optimally productive; in other words, the resource group as well as the user must be aware of the situation in which the problem solver operates if they are to react productively.

The resource group simulates the need-reduction cycle of the user. Not only must they be able to simulate the user needs but they must also simulate the search activity which the user is employing. Potential solutions need to be tested out in much the same way that the user himself would do. Havelock argues that only in this way can a resource person understand and link effectively with the user.

Linkage is not simply a two-person interaction process: the resource person must have access to more remote and expert resources than himself. In efforts to aid the user,

the resource person finds it necessary to draw upon other specialists. He must develop a means of communicating his need for knowledge to other resource persons and these in turn must have the capacity, at least to a limited degree, to recapitulate the same problem-solving cycle already outlined. Only in this fashion can the more remote members of the communication chain develop their own reciprocal relationship with each link in the chain.

There is a growing consensus among students of planned change that a problem-solving and a human relations approach to decision making must be merged before a truly functional change model can evolve. Such a concept was recently proposed by William D. Hitt at the 1972 American Association of Junior Colleges Convention in Dallas, Texas. Hitt's thesis was that a rationally planned problem-solving process will not succeed without careful consideration of the personal feelings, motives, and values of those involved. He argued that "underlying the humanistic management philosophy is the basic proposition that the human dimension of management and the scientific dimension can be effectively united through participative management" (Hitt, 1972). It is important to involve those people (e.g., students, faculty, administrators, or even the community at large) who have a vital interest in a given program. To the extent that such groups are actively a part of the planning process, a systematic strategy for change is more likely to be successful. For example, the greater the involvement of individuals in the development of output objectives, the more likely will be their commitment to the achievement of those objectives.

The utility of the Havelock linkage model is that it considers not only the importance of the interpersonal linkage between user groups and resource groups, but it moves beyond the static description of knowledge transfer inherent in the research, development, and diffusion model. It also incorporates the important elements of a systematic problem-solving approach with the planned intervention strategies implicit in the social interaction model.

Having adopted the linkage model as a guide, what then are the basic steps through which a problem solver[1] should proceed in attempting to implement needed reforms within his institution? An overview of a series of six suggested steps through which a problem solver should proceed follows (Bushnell, 1972A). The steps are:

(1) Diagnosing the problem.
(2) Formulating objectives and criteria of effectiveness.
(3) Identifying constraints and needed resources.
(4) Selecting potential solutions.
(5) Evaluating these alternative solutions.
(6) Implementing the selected alternatives within the college system.

Step One: *Diagnosing the Problem.* A successful planned change strategy begins with the recognition that a problem exists. While this may seem self-evident, many efforts at reform fail because those responsible for carrying out the problem-solving effort are unable to cut through to the central issues and needs involved. In a recent study of community colleges (Barry and Wolf, 1964), for example, a sizable discrepancy was discovered between student and faculty perceptions of the utility of the pupil personnel services program. Some guidance counselors might be disposed to disregard this as simply evidence of the students' inability to grasp the significance of the complexity of the decision-making process associated with arriving at a career commitment. Yet several studies have shown that the community college student derives little benefit from the

[1] The problem solver could be the chief executive officer, a dean, or anyone in a policy-making position. A number of larger institutions now have "change agents" who have been directed to help spur others in the organization toward the adoption of needed reforms. A problem solver could be any one of these various functionaries.

occupational counseling available to him. Furthermore, guidance counselors are often unaware of the level of decision making a student has arrived at as he attempts to cope with a variety of options or lack of options.

The failure of faculty members and, to some extent, guidance counselors themselves, to recognize the importance of outside influences in career decision making leads them to place considerable value on the availability of guidance services to students. But this same mistake is not made by students, thus the discrepancy.

The role of parents, teachers, business and industry representatives, labor unions, and even television and the printed media need to be given greater weight in the career guidance equation. Providing students with access to the typical pupil personnel program represents only one way of getting at a rather complex decision-making process. A successful problem-solving strategy must be able to sort out the many variables which operate in this situation.

Closely tied to the problem of diagnosis is the need to pinpoint the appropriate persons to be involved in the diagnostic process—to identify the opinion molders and leaders, and to determine their perceptions and needs. Simply accepting their immediate interpretation of a problem, however, would be akin to the medical practitioner who accepts uncritically the patient's self-diagnosis of an illness. The problem solver must not only tap the important persons for their perceptions of the problem, but also interpret that information in light of current theory.

Some of the more obvious and pressing problems reflecting what is and what ought to be happening at institutions of higher education can be summarized in the following points:

(1) Many academically trained faculty are inclined to favor the college transfer student. Reared in the tradition of the liberal arts, such faculty members often evidence negative attitudes toward occupational courses. Since many of these same people are chosen to fill administrative positions, their institutions tend to relegate occupational training programs to a position of lesser prestige. Too frequently this attitude is communicated to the students.

(2) Perhaps the most glaring gap between goal and practice is in the area of general education. Little emphasis is placed upon interdisciplinary studies where a broad base of learning skills need to be developed for tackling such emergent social problems as pollution control, solid waste management, and welfare programs. While there is some evidence that college departments are beginning to be structured along interdisciplinary lines, much remains to be done, particularly in areas such as the humanities and social sciences.

(3) The area of community service often operates as an ancillary part of a college program. There is meager financial support for such efforts and what resources are available are sometimes cut back when the institution is faced with a budget crunch. Some programs evidence little relevance to community needs or constituent groups. In fact, meeting community needs often means responding to the special interest of middle-class business and professional groups without recognition of the concerns for other segments of the community.

(4) Heterogeneous student populations are difficult to handle in the typical classroom situation. Instructional procedures and curricula are often geared to one type of student (i.e., the verbally oriented). Little provision is made for differentiating between the verbal and nonverbally oriented student or between the self-starters and the other-directed students. High attrition rates among those from educationally disadvantaged backgrounds still persist.

This brief recounting of some of the problems currently being confronted by college administrators demonstrates a continuing need for change. Those who occupy key decision-making roles are groping for better ways to operate. The solution will not be

found by simply changing the organizational structure or by appointing new investigating committees. Basic changes require a careful diagnosis and identification of the underlying causes within a total system framework.

Step Two: *Formulating Objectives.* The important variables in a particular problem area have been identified, and the perceptions of key persons involved have been inventoried. Before undertaking a search for alternative solutions, the problem solver must first decide what improvements he is trying to achieve, what goals and objectives should be met. As defined earlier, an objective may be the end of an action or an intermediate step directed toward a more distant goal. Well-stated curriculum objectives should (a) describe in operational or behavioral terms the types of behavior desired, (b) state the criteria of acceptable performance, (c) be consistent with longer term goals, and (d) specify the conditions under which the desired behavior needs to be performed. This set of criteria help to illustrate the essential differences between goals or general objectives and more specific objectives which are capable of quantification. Common management problems experienced in attempting to state objectives are briefly summarized in the following paragraphs and are outlined in a more complete form elsewhere (Bushnell, 1972B).

First, an objective should be stated in quantifiable or, if relevant, behavioral terms. It should be stated precisely and contain only one element of the total problem. It should describe or imply the completion of certain actions which are assessible.

Second, an objective should describe what is to be done, how it is to be done, and with what degree of acceptability. For example, a well-stated curriculum objective might be to require that a student complete a 100-item multiple choice test on the principles of "management by objectives." The lower limit of acceptable performance might be 85 correct items completed within a time span of 90 minutes.

Third, a well-stated objective should be internally consistent, that is, consistent with other goals and objectives of the organization.

Fourth, objectives should be consistent with what is intended. The layman can seldom decide whether or not a given procedure or practice is consistent with what the educational institution is trying to accomplish. The college administrator or faculty member should be responsible for deciding whether a given objective will help students achieve their particular goals. Determining the consistency between the objective and what is actually intended requires expert judgment or empirical validation.

Fifth, objectives should be comprehensive. Sometimes efforts are directed at the achievement of two or three objectives while others are ignored. It is importnat that the sum total of objectives be sufficiently comprehensive to cover all of the significant aspects of the problem. One of the concerns with the use of programmed instruction, for example, is that as students are required to proceed in a stepwise fashion toward the achievement of some specific learning objective, they may, in the process, be taught to avoid inductive leaps. The consequence should be anticipated.

Sixth, objectives should provide for individual differences. Some faculty members believe that if they develop a specific set of objectives, all students must work toward the same level of accomplishment in the same manner. This does not always have to be the case, however. Ideally, objectives should be tailored to the individual needs, interests, abilities, and background of the student.

Each student's performance should be evaluated with respect to how well he is doing in the light of the objective formulated specifically for him. At the completion of the program of study, each student should be assured that he does qualify for a job, or that he can go on to college if he chooses and that he will be able to compete successfully when there. To ensure his continuing adaptability, he needs to be reasonably proficient in the basic learning skills.

Seventh, objectives must reflect a consideration of the real world and its constraints. State laws, shortages of tax funds, or unavailable faculty members may block the achievement of a given objective if they are not anticipated and taken into account.

Eighth, and last, objectives should be attainable but ambitious enough to be challenging. In football, a good pass is one which is thrown just far enough in front of the receiver so that he has to stretch a little and is challenged to reach it. Obviously, if the receiver has to stand and wait for it or cannot get to it, the pass is not likely to be completed. Participants in a problem-solving effort must be convinced that the objectives toward which they are moving are worth the effort. Collaborative effort will help to insure a full commitment of all who are involved which will in turn help to insure a successful outcome.

Step Three: *Identifying Constraints and Needed Resources.* Before proceeding to the search for potential solutions and the outlining of a strategy for change, the problem solver must be fully aware of the history and traditions that surround a given problem. Constraints and needed resources, which tend to operate as two sides of the same coin, must be identified. Faculty attitudes may be positive or negative. State regulations may facilitate or hinder the adoption of new procedures. Thus, either can be classified under one or more of the following categories:

(1) Financial considerations (assets and liabilities).
(2) Laws and regulations (federal, state, and local).
(3) Human considerations (aptitudes, experience, attitudes, limitations).
(4) Timing considerations (priorities, previous commitments, deadlines).
(5) Demographic considerations (environmental, cultural, natural resources, transportation).
(6) Facilities (school-plant, classroom equipment, instructional aids, communication facilities).

Specifying the constraints or the setting in which the problem is lodged is often a time-consuming but important phase of the problem-solving process. A carefully developed inventory of constraints and needed resources not only serves as a means of demonstrating the need for alternative solutions to a problem, but also helps in the elimination of potential alternatives without further analysis.

Needed resources may take the form of information, people with special talents, new instructional procedures, or money. Identifying and marshaling the required resources in advance or when they are needed will do much to insure the successful implementation of a proposed reform.

Step Four: *Selecting Potential Solutions.* Having successfully analyzed the underlying concerns, identified who would be involved in the problem-solving process, stated the specific objectives, and pinpointed possible barriers of constraints as well as needed resources, the problem solver is now ready to retrieve and evaluate alternative solutions. Two important procedures need to be implemented in carrying out this step: (a) reviewing appropriate information sources and (b) choosing from several promising alternatives the best solution for further analysis.

A systematic review of the monthly publication *Research in Education* or utilization of the ERIC Clearinghouses, which cover a wide range of topics, makes the task far easier than it would have been a decade ago. Visiting innovative institutions, reviewing evaluative reports, scanning journals and monographs, represent other typical search procedures.

One caveat to be observed: Be wary of the blandishments of outside experts. Such resource people should be able to grapple with and understand the problem in its natural context. Frequently a university-based consultant fails to appreciate the traditions and commitments under which a small college administrator must operate. He is often

more concerned with generalizing from specific situations than with solving them. Practitioners are often disposed to reject solutions proposed by "ivory tower" consultants because their recommendations are phrased in ways that are not easily understood and utilized. Even nonuniversity based researchers, in their concern with advancing knowledge in their chosen field, tend to delay practical decisions in the interest of accuracy and truth. The problem solver will, in all probability, need to operate within a specific framework and time period. Effective linkage between a user group and outside resource people requires mutual understanding, equal commitment, and frequent interaction.

Step Five: *Evaluating Alternatives.* Selecting one or more alternatives from among an array of possible lines of action requires that criteria for evaluative purposes be established. Ideally, such criteria would be agreed upon at the initiation of the problem-solving attempt. Feasibility, workability, and effectiveness are three of the more common criteria.

Feasibility establishes the likelihood that a given alternative can be achieved, keeping in mind the constraints and needed resources available to the group. *Workability* reflects the extent to which the potential solution really works. How reliable is the proposed procedure? Have the detailed steps to be followed been worked out? What costs are likely to be incurred and can these be met? (Regarding the last question, there is a tendency for those who hold the purse strings to impose this selection criteria as a constant while letting alternative strategies vary. It may be just as important to let cost vary until the other assessments have been made.) *Effectiveness* is often the most difficult criteria to employ because of the time lag between a particular demonstration and the expected results. Therefore, judging the effectiveness of one strategy against another may have to be carried out on a subjective basis. If at all possible, however, objective measures should be employed. Successfully predicting outcome often requires trained specialists.

A final decision will most likely be based upon a ranking of alternatives by assigning weights to each of these three criteria and then selecting the option that stands out as the most desirable.

Step Six: *Implementing the Selected Alternative.* Effective follow-up action requires, among other things, early involvement of those who will be implementing the new procedure or practice. Implementation, in turn, requires clear and precise objectives, systematic steps to be followed, and the specification of evaluative criteria—in other words, the same steps through which any systematic problem resolution must proceed. This iterative cycle will continue until the new program is well established.

To ensure continued acceptance of an innovative program, a supportive climate for the project must be maintained. Those responsible must have a sense of confidence and competence, openness to new information, and a willingness to take risks. Anticipated rewards are also an essential ingredient. Visibility as an innovator may be sufficient reward for some; others will want to see the new program benefiting students. Often the faculty derive little satisfaction in attempting to help students improve their performance because of the time lag involved in being able to collect evidence of behavioral change. Frequent measures of interim progress toward a longer term goal may serve as needed feedback benefiting both students and faculty.

These six steps provide a more systematic plan for implementing needed changes within ongoing college programs. Any administrator who comsiders adopting this planned approach to problem solving may wonder whether this is something he does in addition to holding his staff accountable for carrying out their assigned duties. Rather than substituting this procedure for already established mechanisms or procedures for implementing needed reforms, a problem-solving strategy is suggested as a complementary undertaking. The strategy represents a better way of merging rational planning with an active concern for people, and that, of course, is what educational administration is all about.

Summary

A systematic problem-solving approach to educational change has been described as a rational way at relating "input" to "output." Such an approach requires (a) goals and objectives, (b) a method for evaluating how well those goals are being served, (c) commitment to serving the goals, (d) agreement on how they are to be served, and (e) a mechanism for negotiating new goals and procedures as changing conditions warrant. A system for relating goals to the learning process—by means of systems-analytic process within a participative management framework—provides a more rigorous way of asking and answering questions on how well the college system is functioning. Such a management system can be adopted by implementing s problem-solving, rationally sequenced steps leading to a more effective school program

The emergence of a more systematic approach to college administration offers the hope of facilitating the realignment of educational priorities for the decade—priorities that commit educators to meeting the needs of all students, not just those who have already learned how to learn. It has been the intent of this paper to argue for combining the concept of systematic problem solving with the modern management strategies of participative management. Such a synthesis makes it possible to continue our commitment to humanistic goals while adjusting the productivity of our colleges.

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16. Abstracts

In light of the new demands being made on higher education in the seventies, a six-step systematic change strategy is presented to implement needed reforms in educational institutions. The approach requires (a) recognition of an existing problem; (b) establishment of well-defined, assessable goals and objectives; (c) identification of constraints and needed resources; (d) selection and evaluation of alternative solutions; and (e) implementation of the selected procedure or practice. The author argues for combining the concept of systematic problem solving with the modern management strategies of participative management.

17. Key Words and Document Analysis. 17a. Descriptors

Education
Organizations
Problem solving
Students

17b. Identifiers/Open-Ended Terms

Change
Higher education
Management

17c. COSATI Field/Group

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